

**Amendments to the Claims:**

This listing of claims replaces any and all prior claim lists.

**Listing of Claims:**

Claims 1-4 (canceled).

Claim 5 (new). A copolymer of ethylene and  $\alpha$ -olefin of from 4 to 20 carbon atoms having melt flow rate (MFR) of from 1 to 100 g/10 minutes, melt tension at 190°C (MT), intrinsic viscosity ( $[\eta]$ ) and a chain length A satisfying following formula (1) to (3), wherein the chain length A is a chain length at peak position of a logarithm normal distribution curve of a component having the highest molecular weight among logarithm normal distribution curves obtained by dividing a chain length distribution curve obtained by gel permeation chromatography measurement into at least two logarithm normal distribution curves,

$$\begin{array}{ll} 2 \times \text{MFR}^{-0.59} < \text{MT} < 20 \times \text{MFR}^{-0.59} & \text{formula (1)} \\ 1.02 \times \text{MFR}^{-0.094} < [\eta] < 1.50 \times \text{MFR}^{-0.156} & \text{formula (2), and} \\ 3.30 < \log A < -0.0815 \times \log(\text{MFR}) + 4.05 & \text{formula (3).} \end{array}$$

Claim 6 (new). A copolymer of ethylene and  $\alpha$ -olefin of from 4 to 20 carbon atoms having melt flow rate (MFR) of from 1 to 100 g/10 minutes, melt tension at 190°C (MT), intrinsic viscosity ( $[\eta]$ ) and characteristic relaxation time at 190°C ( $\tau$ ; unit is sec), satisfying the following formula (1) to (4):

$$\begin{array}{ll} 2 \times \text{MFR}^{-0.59} < \text{MT} < 20 \times \text{MFR}^{-0.59} & \text{formula (1)} \\ 1.02 \times \text{MFR}^{-0.094} < [\eta] < 1.50 \times \text{MFR}^{-0.156} & \text{formula (2), and} \\ 2 < \tau < 8.1 \times \text{MFR}^{-0.746} & \text{formula (4).} \end{array}$$

Claim 7 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 5 or 6, wherein the copolymer of ethylene and  $\alpha$ -olefin has activation energy for melt flow of not less than 60 kJ/mol.

Claim 8 (new). The copolymer of ethylene and  $\alpha$ -olefin according to Claim 5 or 6, wherein the copolymer of ethylene and  $\alpha$ -olefin has swell ratio (SR) and  $[\eta]$  satisfying the following formula (6):

when  $[\eta] < 1.20$ ,  $-0.91 \times [\eta] + 2.232 < SR < 2$ , and

when  $[\eta] \geq 1.20$ ,  $1.17 < SR < 2$ .